



*Joshua Lederberg*

## U.S. Population Growth Could Be Made Bearable

"THERE IS currently some tendency to blame on the population explosion all of our social and environmental ills . . . This is an unrealistic and all too simple explanation. Most of these problems have their origins in other social, economic and political factors and from the excessive concentration of our existing population in metropolitan areas. But there is no doubt that most or all of our national ills are seriously exacerbated by a rapidly expanding population."

So said Dr. J. George Harrar, president of the Rockefeller Foundation, in testimony before a House subcommittee on the "Effects of Population Growth on Natural Resources and the Environment."

This overview of the U.S. population problem I readily cond. Neither Dr. Harrar nor myself would minimize the crushing economic burden of a 25-year population-doubling time on the poor countries of the world. But we cannot compare that problem with our 70-year doubling time in the context of our own economy. If we were ready and well able to cope with our obvious needs for social and environmental rehabilitation, our population growth would be a small additional burden. To the extent that we are not, however, population increase can only aggravate our difficulties.

THE STRIPPING of our forests and the depletion of our mineral resources are among the problems said to be closely connected with our population growth. In fact, the instant problem is how to provide for an existing world population. To match the consumption patterns of the United States—and we have far from saturated what we regard as our

own needs for housing and other durables—would require a nearly tenfold increase in mining the world's resources.

That would have to be redoubled for a decade to match our above-ground stockpiles in existing buildings, rolling stock, industrial plant and so forth. Known reserves of iron ore and fossil fuels might barely meet such requirements, but the reserves of most other metals are hopelessly inadequate for any such sudden increase of demand. Mercury and silver are already in critical supply for the existing industrial economy, and the 20-year outlook for uranium, nickel, tin, lead and zinc is at least questionable.

U.S. population growth does not, however, bear heavily on this question. Our growth in mineral use per capita runs at about 2 per cent per year; it presses twice as hard as the population increase itself. The underlying question is whether the free enterprise price system can react promptly and correctly enough to our real resource needs.

FROM MANY standpoints, the poor countries now suffer from an apparent glut of primary commodities through the depression of prices to levels that hinder their economic development. Mineral values make up hardly more than one per cent of our own GNP. We might withstand a gradual adjustment of their prices by as much as 10 times without enormous deprivation—though necessarily with quite some effect on competition between industries.

During the past decade, the depletion of silver and mercury has caused a price increase of two-to threefold. This has already resulted in strenuous efforts to conserve and recycle these met-

als. Their properties are too special to encourage much direct substitution in applications like silver in conventional photography. But the shortages have impelled strenuous efforts to find new approaches — with some successes, like xerographic copy making.

Competitive pressures for minerals from a developing world may end up with the paradoxical benefit of making us recycle our wastes and reclaim our junked cars under simple economic pressure. It is important that we encourage the technological advances that can lead to a more efficient use and reuse of our resources.

It is equally important that we do not permit the pressure of shrinking reserves to justify economic distortions in the name of parochial sufficiency, or the fundamentally uneconomic wastage of the whole environment in the name of "Cheap" extraction of minerals.

© 1970, The Washington Post Co.

This communication relates to a column "Science & Man" distributed weekly by the Washington Post.

*Joshua Lederberg*